Report Information from Dialog DataStar

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The facial features extraction for face recognition based on geometrical approach.

Accession number & update
0009376429 20070408.
Conference information
2006 Canadian Conference on Electrical and Computer Engineering,
Ottawa, Ont., Canada, 7–10 May 2006.
Source
2006 Canadian Conference on Electrical and Computer Engineering, 2007, p. 4 pp., 9 refs, pp.
CD–ROM, ISBN: 1–4244–0037–6. Publisher: IEEE, Piscataway, NJ, USA.
Author(s)
Basavaraj–Amarapur, Nagaraj–Patil.
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Basavaraj Amarapur, P.D.A. Coll. of Eng., Gulbarga, India.
Abstract
Over the last two decades, several different techniques have been proposed for **face recognition,** which is one of the challenging areas of research in the field of image processing, pattern **recognition** and vision applications. Automatic human **face** identification system, e.g. **security** checks and crime investigation, etc. involves **face recognition.** The basic process consists of extraction of potential, **facial** features such as eyes, nose, mouth, eyebrows, etc. In the present paper, a geometrical **face** model proposed by Shi–Hong Jeng et al. for frontal **face** images is improved by the inclusion of ears and chin also as potential **facial** features, since it enhances the discrimination ability of the proposed **face** model during **face recognition** .The developed approach is divided into four main steps. The first step is pre processing, the goal of this step is to get rid of high intensity noises and to transform the input image into binary one. The second step includes a labeling process, which label the **facial** feature candidates by block by block. Then find the center, area and the orientation of each feature candidate. Third step is a geometrical model, used to measure **relative** distances and to locate the actual position of the entire **facial** features. Finally, the matching process. The modified **face** model has been experimented with test images and an enhanced success rate of 94% is achieved.
Descriptors
COMPUTATIONAL–GEOMETRY; **FACE–**RECOGNITION; FEATURE–EXTRACTION; IMAGE–DENOISING; IMAGE–MATCHING.
Classification codes
B6135E **Image–**recognition*;
C5260B Computer–vision–and–image–processing–techniques*;
C4260 Computational–geometry.
Keywords
facial–feature–extraction; **face–**recognition; **geometrical–**face–model–approach; **face–**matching–process.
Treatment codes
P Practical.
Language
English.
Publication type
Conference–paper.
Publication year
2007.
Publication date
20070000.
Edition
2007014.

"FacePass"–development of a face–recognition security system unaffected by entrant's stance.

Dialog eLinks

Full text options USPTO Full Text Retrieval Options

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0007415025 20070101.

Source

Journal of the Institute of Image Information and Television Engineers, {J–Inst–Image–Inf–Telev–Eng–Japan}, July 2002, vol. 56, no. 7, p. 1111–17, 10 refs, CODEN: EJMGFM, ISSN: 1342–6907. Publisher: Inst. Image Inf. & Telev. Eng, Japan.

Author(s)

Sato–T, Sukegawa–H, Yokoi–K, Dobashi–H, Ogata–J, Okazaki–A.

Author affiliation

Sato, T., Sukegawa, H., Yokoi, K., Dobashi, H., Ogata, J., Okazaki, A., e–Solutions Co., Toshiba Corp., Kawasaki.

Abstract

A **face–**recognition **security** system for access control is described that is unaffected by the stance of the entrant. Although **face recognition** has several advantages compared to other biometric techniques, the similarity value used for **recognition** is affected by the direction that the entrant is facing, the entrant's position **relative** to the equipment, and the lighting conditions. The proposed system eliminates the second problem by using feedback to stabilize the entrant's position and an efficient method to update the registered data. A six–month evaluation of a prototype system showed that it had a FAR (false acceptance rate) of 0.1% and a FRR (false rejection rate) of 1%. Simulation of one–to–many identification showed that contact–less **security** is feasible using this system.

Descriptors

BIOMETRICS–ACCESS–CONTROL; **FACE–**RECOGNITION; FEEDBACK; LIGHTING.

Classification codes

B6135E **Image–**recognition*;
C5260B Computer–vision–and–image–processing–techniques*;
C1250M **Image–**recognition.

Keywords

FacePass; **face–**recognition–security–system; access–control; biometrics; lighting–conditions; registered–data–updating; prototype–system; false–acceptance–rate; false–rejection–rate; one–to–many–identification; simulation; entrant–position–stabilisation.

Treatment codes

A Application;
P Practical;
T Theoretical–or–mathematical;
X Experimental.

Language

Japanese.

Publication type

Journal–paper.

Availability

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Publication year

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Copyright statement

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Exclusion of photos and new segmentation algorithms for the automatic face recognition.

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Conference information

Proceedings of First International Conference on Audi and Video based Biometric Person Authentication (AVBPA), Crans–Montana, Switzerland, 12–14 March 1997.

Source

Audio– and Video–Based Biometric Person Authentication. First International Conference, AVBPA'97. Proceedings, 1997, p. 161–8, 5 refs, pp. xii+450, ISBN: 3–540–62660–3. Publisher: Springer–Verlag, Berlin, Germany.

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Gebhart–A, Eppler–T. Editor(s): Bigun–J, Chollet–G, Borgefors–G.

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Gebhart, A., Eppler, T., Eberhard–Karls–Univ. Tubingen, Germany.

Abstract

Face recognition systems have an important disadvantage. It is not always possible to locate the **face** under the various changes appearing in the surroundings. These changes are, **above** all, varying illumination, rotation, translation and size variance. Using special picture processing methods, executed before the verification or identification process is started, these variances can be removed. The vast majority of **face recognition** systems work with 2D pictures which have been acquired with a standard CCD camera. Analysis has shown that even the best **face recognition** systems can be deceived with a photograph of a person held in front of the camera. For the exclusion of photos, several alternatives are possible: there are systems which use 3D pictures, the heat emission of a **face** can be measured, etc. Nearly all of these methods have one thing in common: they need very complicated and expensive hardware. Easier and more efficient methods that guarantee the exclusion of photos are presented.

Descriptors

BIOMETRICS–ACCESS–CONTROL; **FACE–**RECOGNITION; **IMAGE–**SEGMENTATION; LIGHTING; PHOTOGRAPHY.

Classification codes

C5260B Computer–vision–and–image–processing–techniques*;
C6130S **Data–**security;
C3370N Control–applications–in–photography–and–cinematography.

Keywords

photograph–exclusion; **image–**segmentation–algorithms; **automatic–**face–**recognition;** illumination; rotation; translation; size–variance; picture–processing–methods; verification–process; identification–process; 2D–pictures; CCD–camera; 3D–pictures; heat–emission.

Treatment codes

P Practical.

Language

English.

Publication type

Conference–paper.

Publication year

1997.

Publication date

19970000.

Edition

1997025.

Copyright statement

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Search Strategy

No.	Database	Search term	Info added since	Results
1	INZZ	(face OR facial) ADJ (recogni$4 OR segment$5)	unrestricted	10822
2	INZZ	barcode$1 OR bar ADJ code$1 OR bar–code$1	unrestricted	2944
3	INZZ	security	unrestricted	132013
4	INZZ	badge OR badges OR tag OR tags	unrestricted	9258
5	INZZ	1 AND 4	unrestricted	12
6	INZZ	1 AND 2	unrestricted	11
7	INZZ	1 AND 3	unrestricted	791
8	INZZ	relative OR below OR above	unrestricted	839644
9	INZZ	7 AND 8	unrestricted	32

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